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NEWS 1 Web Page URLs for STN Seminar Schedule - N. America  
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NEWS 3 DEC 05 CASREACT(R) - Over 10 million reactions available  
NEWS 4 DEC 14 2006 MeSH terms loaded in MEDLINE/LMEDLINE  
NEWS 5 DEC 14 2006 MeSH terms loaded for MEDLINE file segment of TOXCENTER  
NEWS 6 DEC 14 CA/CAPLUS to be enhanced with updated IPC codes  
NEWS 7 DEC 21 IPC search and display fields enhanced in CA/CAPLUS with the  
IPC reform  
NEWS 8 DEC 23 New IPC8 SEARCH, DISPLAY, and SELECT fields in USPATFULL/  
USPAT2

NEWS EXPRESS JANUARY 03 CURRENT VERSION FOR WINDOWS IS V8.01,  
CURRENT MACINTOSH VERSION IS V6.0c(ENG) AND V6.0Jc(JP),  
AND CURRENT DISCOVER FILE IS DATED 19 DECEMBER 2005.  
V8.0 USERS CAN OBTAIN THE UPGRADE TO V8.01 AT  
<http://download.cas.org/express/v8.0-Discover/>

NEWS HOURS STN Operating Hours Plus Help Desk Availability  
NEWS INTER General Internet Information  
NEWS LOGIN Welcome Banner and News Items  
NEWS PHONE Direct Dial and Telecommunication Network Access to STN  
NEWS WWW CAS World Wide Web Site (general information)

Enter NEWS followed by the item number or name to see news on that  
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\* \* \* \* \* STN Columbus \* \* \* \* \*

FILE 'HOME' ENTERED AT 11:47:23 ON 12 JAN 2006

=> FIL STNGUIDE

COST IN U.S. DOLLARS	SINCE FILE ENTRY	TOTAL SESSION
FULL ESTIMATED COST	0.21	0.21

FILE 'STNGUIDE' ENTERED AT 11:47:36 ON 12 JAN 2006

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AND TECHNOLOGY CORPORATION, AND FACHINFORMATIONSZENTRUM KARLSRUHE

FILE CONTAINS CURRENT INFORMATION.

LAST RELOADED: Jan 6, 2006 (20060106/UP).

=> FIL HOME		
COST IN U.S. DOLLARS	SINCE FILE	TOTAL
	ENTRY	SESSION
FULL ESTIMATED COST	0.06	0.27

FILE 'HOME' ENTERED AT 11:47:42 ON 12 JAN 2006

=> file caplus		
COST IN U.S. DOLLARS	SINCE FILE	TOTAL
	ENTRY	SESSION
FULL ESTIMATED COST	0.21	0.48

FILE 'CAPLUS' ENTERED AT 11:47:54 ON 12 JAN 2006

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FILE COVERS 1907 - 12 Jan 2006 VOL 144 ISS 3

FILE LAST UPDATED: 11 Jan 2006 (20060111/ED)

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=> e tibbetts rs/au

E1	1	TIBBETTS RAYMOND E/AU
E2	2	TIBBETTS ROBERT J/AU
E3	0 -->	TIBBETTS RS/AU
E4	2	TIBBETTS RUSSELL D R/AU
E5	3	TIBBETTS S A/AU
E6	1	TIBBETTS S J/AU
E7	3	TIBBETTS S M/AU
E8	4	TIBBETTS SARAH J/AU
E9	1	TIBBETTS SCOTT/AU
E10	14	TIBBETTS SCOTT A/AU
E11	1	TIBBETTS SCOTT AARON/AU
E12	1	TIBBETTS STANELY J/AU

=> e tibbetts r s/au

E1	1	TIBBETTS P H/AU
E2	19	TIBBETTS P J C/AU
E3	0 -->	TIBBETTS R S/AU
E4	18	TIBBETTS RANDAL S/AU
E5	1	TIBBETTS RANDAL SCOT/AU
E6	1	TIBBETTS RAYMOND E/AU
E7	2	TIBBETTS ROBERT J/AU
E8	2	TIBBETTS RUSSELL D R/AU
E9	3	TIBBETTS S A/AU
E10	1	TIBBETTS S J/AU
E11	3	TIBBETTS S M/AU
E12	4	TIBBETTS SARAH J/AU

=> s e4 and py=1999

18 "TIBBETTS RANDAL S"/AU  
960839 PY=1999

L1 2 "TIBBETTS RANDAL S"/AU AND PY=1999

=> d bi 1-2

'BI' IS NOT A VALID FORMAT FOR FILE 'CAPLUS'

The following are valid formats:

ABS ----- GI and AB  
ALL ----- BIB, AB, IND, RE  
APPS ----- AI, PRAI  
BIB ----- AN, plus Bibliographic Data and PI table (default)  
CAN ----- List of CA abstract numbers without answer numbers  
CBIB ----- AN, plus Compressed Bibliographic Data  
CLASS ----- IPC, NCL, ECLA, FTERM  
DALL ----- ALL, delimited (end of each field identified)  
DMAX ----- MAX, delimited for post-processing  
FAM ----- AN, PI and PRAI in table, plus Patent Family data  
FBIB ----- AN, BIB, plus Patent FAM  
IND ----- Indexing data  
IPC ----- International Patent Classifications  
MAX ----- ALL, plus Patent FAM, RE  
PATS ----- PI, SO  
SAM ----- CC, SX, TI, ST, IT  
SCAN ----- CC, SX, TI, ST, IT (random display, no answer numbers;  
SCAN must be entered on the same line as the DISPLAY,  
e.g., D SCAN or DISPLAY SCAN)  
STD ----- BIB, CLASS  
  
IABS ----- ABS, indented with text labels  
IALL ----- ALL, indented with text labels  
IBIB ----- BIB, indented with text labels  
IMAX ----- MAX, indented with text labels  
ISTD ----- STD, indented with text labels  
  
OBIB ----- AN, plus Bibliographic Data (original)  
OIBIB ----- OBIB, indented with text labels  
  
SBIB ----- BIB, no citations  
SIBIB ----- IBIB, no citations  
  
HIT ----- Fields containing hit terms  
HITIND ----- IC, ICA, ICI, NCL, CC and index field (ST and IT)  
containing hit terms  
HITRN ----- HIT RN and its text modification  
HITSTR ----- HIT RN, its text modification, its CA index name, and  
its structure diagram  
HITSEQ ----- HIT RN, its text modification, its CA index name, its  
structure diagram, plus NTE and SEQ fields  
FHITSTR ----- First HIT RN, its text modification, its CA index name, and  
its structure diagram  
FHITSEQ ----- First HIT RN, its text modification, its CA index name, its  
structure diagram, plus NTE and SEQ fields  
KWIC ----- Hit term plus 20 words on either side  
OCC ----- Number of occurrence of hit term and field in which it occurs

To display a particular field or fields, enter the display field codes. For a list of the display field codes, enter HELP DFIELDS at an arrow prompt (=>). Examples of formats include: TI; TI,AU; BIB,ST; TI,IND; TI,SO. You may specify the format fields in any order and the information will be displayed in the same order as the format specification.

All of the formats (except for SAM, SCAN, HIT, HITIND, HITRN, HITSTR,

FHITSTR, HITSEQ, FHITSEQ, KWIC, and OCC) may be used with DISPLAY ACC to view a specified Accession Number.

ENTER DISPLAY FORMAT (BIB):

ENTER DISPLAY FORMAT (BIB):bib

L1 ANSWER 1 OF 2 CAPLUS COPYRIGHT 2006 ACS on STN  
AN 1999:580525 CAPLUS  
DN 131:283366  
TI Inhibition of ATM and ATR kinase activities by the radiosensitizing agent, caffeine  
AU Sarkaria, Jann N.; Busby, Ericka C.; **Tibbetts, Randal S.**; Roos, Pia; Taya, Yoichi; Karnitz, Larry M.; Abraham, Robert T.  
CS Division of Oncology Research, Mayo Clinic, Rochester, MN, 55905, USA  
SO Cancer Research (1999), 59(17), 4375-4382  
CODEN: CNREA8; ISSN: 0008-5472  
PB AACR Subscription Office  
DT Journal  
LA English  
RE.CNT 53 THERE ARE 53 CITED REFERENCES AVAILABLE FOR THIS RECORD  
ALL CITATIONS AVAILABLE IN THE RE FORMAT

L1 ANSWER 2 OF 2 CAPLUS COPYRIGHT 2006 ACS on STN  
AN 1999:107559 CAPLUS  
DN 130:292351  
TI A role for ATR in the DNA damage-induced phosphorylation of p53  
AU **Tibbetts, Randal S.**; Brumbaugh, Kathryn M.; Williams, Josie M.; Sarkaria, Jann N.; Cliby, William A.; Shieh, Sheau-Yann; Taya, Yoichi; Prives, Carol; Abraham, Robert T.  
CS Department of Pharmacology and Cancer Cell Biology, Duke University, Durham, NC, 27710, USA  
SO Genes & Development (1999), 13(2), 152-157  
CODEN: GEDEEP; ISSN: 0890-9369  
PB Cold Spring Harbor Laboratory Press  
DT Journal  
LA English  
RE.CNT 35 THERE ARE 35 CITED REFERENCES AVAILABLE FOR THIS RECORD  
ALL CITATIONS AVAILABLE IN THE RE FORMAT

*bad date*  
*Reviewed*

=> d ind 2

L1 ANSWER 2 OF 2 CAPLUS COPYRIGHT 2006 ACS on STN  
CC 3-4 (Biochemical Genetics)  
Section cross-reference(s): 8, 13  
ST DNA damage phosphorylation p53 ATP protein human fibroblast  
IT Proteins, specific or class  
RL: BPR (Biological process); BSU (Biological study, unclassified); BIOL (Biological study); PROC (Process)  
(ATM-Rad3-related (ATR); a role for ATR in DNA damage-induced phosphorylation of p53)  
IT Animal cell line  
(GM847 and AT3B1; a role for ATR in DNA damage-induced phosphorylation of p53)  
IT Gene, animal  
RL: BPR (Biological process); BSU (Biological study, unclassified); BIOL (Biological study); PROC (Process)  
(TP53; a role for ATR in DNA damage-induced phosphorylation of p53)  
IT UV radiation  
(a role for ATR in DNA damage-induced phosphorylation of p53)  
IT p53 (protein)  
RL: BPR (Biological process); BSU (Biological study, unclassified); BIOL (Biological study); PROC (Process)  
(a role for ATR in DNA damage-induced phosphorylation of p53)  
IT DNA  
RL: BPR (Biological process); BSU (Biological study, unclassified); BIOL

```

      (Biological study); PROC (Process)
      (damage, a role for ATR in DNA damage-induced phosphorylation of p53)
IT   Gamma ray
      (irradiation; a role for ATR in DNA damage-induced phosphorylation of p53)
IT   Phosphorylation, biological
      (of p53 Ser-15; a role for ATR in DNA damage-induced phosphorylation of
      p53)

```

=> file reg

COST IN U.S. DOLLARS	SINCE FILE ENTRY	TOTAL SESSION
FULL ESTIMATED COST	9.27	9.75

FILE 'REGISTRY' ENTERED AT 11:51:17 ON 12 JAN 2006  
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Property values tagged with IC are from the ZIC/VINITI data file  
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STRUCTURE FILE UPDATES: 10 JAN 2006 HIGHEST RN 871658-99-0  
 DICTIONARY FILE UPDATES: 10 JAN 2006 HIGHEST RN 871658-99-0

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TSCA INFORMATION NOW CURRENT THROUGH JULY 14, 2005

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```

*****
*
* The CA roles and document type information have been removed from *
* the IDE default display format and the ED field has been added, *
* effective March 20, 2005. A new display format, IDERL, is now *
* available and contains the CA role and document type information. *
*
*****

```

Structure search iteration limits have been increased. See HELP SLIMITS  
 for details.

REGISTRY includes numerically searchable data for experimental and  
 predicted properties as well as tags indicating availability of  
 experimental property data in the original document. For information  
 on property searching in REGISTRY, refer to:

<http://www.cas.org/ONLINE/UG/regprops.html>

=> e ATM-Rad3-related/cn

```

E1      1      ATM-P/CN
E2      1      ATM-P (POLYMER)/CN
E3      0 --> ATM-RAD3-RELATED/CN
E4      1      ATM-RELATED KINASE (ASPERGILLUS NIDULANS CLONE W24C04 GENE U
              VSB)/CN
E5      1      ATM./CN
E6      1      ATM61.25/CN
E7      1      ATMAC/CN
E8      1      ATMC/CN
E9      1      ATMER 100/CN
E10     1      ATMER 1007/CN
E11     1      ATMER 1013/CN
E12     1      ATMER 103/CN

```

=> e atr

E1	1	ATQL3/BI
E2	1	ATQL4/BI
E3	6161	--> ATR/BI
E4	4102	ATR01/BI
E5	4427	ATR02/BI
E6	23	ATR1/BI
E7	1	ATR14/BI
E8	16	ATR1NDWSB/BI
E9	8	ATR2/BI
E10	1	ATR228/BI
E11	14	ATR3/BI
E12	1	ATR35/BI

=> e atr/cn

E1	1	ATPTPKIS1 (ARABIDOPSIS THALIANA F4F15.290 GENE)/CN
E2	1	ATPTPKIS1 ALTERNATE (ARABIDOPSIS THALIANA ALTERNATE SPLICING F4F15.290 GENE)/CN
E3	1	--> ATR/CN
E4	1	ATR 077/CN
E5	1	ATR 180/CN
E6	1	ATR 180KZ/A3/CN
E7	1	ATR 200/CN
E8	1	ATR 2005/CN
E9	1	ATR 2009/CN
E10	1	ATR 2010/CN
E11	1	ATR 310/CN
E12	1	ATR 63/CN

=> s atm and atr

	437	ATM
	2	ATMS
	439	ATM
		(ATM OR ATMS)
	6161	ATR
	12	ATRS
	6173	ATR
		(ATR OR ATRS)
L2	1	ATM AND ATR

=> d

L2 ANSWER 1 OF 1 REGISTRY COPYRIGHT 2006 ACS on STN  
RN 182970-52-1 REGISTRY  
ED Entered STN: 12 Nov 1996  
CN **Kinase (phosphorylating), protein, Atr (9CI)** (CA INDEX NAME)  
OTHER NAMES:  
CN Ataxia telangiectasia and Rad3 related protein  
CN **ATM- and Rad3-related protein kinase**  
CN **ATR kinase**  
CN **Atr protein kinase**  
CN Checkpoint kinase  
CN **Checkpoint kinase ATR**  
CN **DNA-dependent p53 kinase ATR**  
CN **Protein kinase Atr**  
MF Unspecified  
CI MAN  
SR CA  
LC STN Files: BIOSIS, CA, CAPLUS, TOXCENTER, USPATFULL

\*\*\* STRUCTURE DIAGRAM IS NOT AVAILABLE \*\*\*

264 REFERENCES IN FILE CA (1907 TO DATE)

4 REFERENCES TO NON-SPECIFIC DERIVATIVES IN FILE CA

268 REFERENCES IN FILE CAPLUS (1907 TO DATE)

=> set exp cont  
SET COMMAND COMPLETED

=> sel l2 chem  
E13 THROUGH E21 ASSIGNED

=> index bioscience  
FILE 'DRUGMONOG' ACCESS NOT AUTHORIZED  
COST IN U.S. DOLLARS

	SINCE FILE	TOTAL
	ENTRY	SESSION
FULL ESTIMATED COST	13.51	23.26

INDEX 'ADISCTI, ADISINSIGHT, ADISNEWS, AGRICOLA, ANABSTR, ANTE, AQUALINE, AQUASCI, BIOENG, BIOSIS, BIOTECHABS, BIOTECHDS, BIOTECHNO, CABA, CAPLUS, CEABA-VTB, CIN, CONFSCI, CROPB, CROPU, DDFB, DDFU, DGENE, DISSABS, DRUGB, DRUGMONOG2, DRUGU, EMBAL, EMBASE, ...' ENTERED AT 11:53:40 ON 12 JAN 2006

70 FILES IN THE FILE LIST IN STNINDEX

Enter SET DETAIL ON to see search term postings or to view  
search error messages that display as 0\* with SET DETAIL OFF.

=> s e13-21

- 1 FILE ADISCTI
- 3 FILE ADISINSIGHT
- 9 FILE AGRICOLA
- 7 FILES SEARCHED...
- 7 FILE AQUASCI
- 41 FILE BIOENG
- 468 FILE BIOSIS
- 20 FILE BIOTECHABS
- 11 FILES SEARCHED...
- 20 FILE BIOTECHDS
- 129 FILE BIOTECHNO
- 13 FILES SEARCHED...
- 9 FILE CABA
- 709 FILE CAPLUS
- 4 FILE CIN
- 17 FILES SEARCHED...
- 5 FILE CONFSCI
- 61 FILE DDFU
- 4219 FILE DGENE
- 23 FILES SEARCHED...
- 27 FILE DISSABS
- 76 FILE DRUGU
- 16 FILE EMBAL
- 722 FILE EMBASE
- 29 FILES SEARCHED...
- 344 FILE ESBIODBASE
- 30 FILES SEARCHED...
- 34 FILE FEDRIP
- 35 FILES SEARCHED...
- 3147 FILE GENBANK
- 39 FILE IFIPAT
- 1 FILE IMSDRUGNEWS
- 9 FILE JICST-EPLUS
- 240 FILE LIFESCI
- 44 FILES SEARCHED...
- 874 FILE MEDLINE
- 6 FILE NTIS
- 47 FILES SEARCHED...
- 107 FILE PASCAL
- 50 FILES SEARCHED...

```

      5  FILE PHAR
      1  FILE PHARMAML
      5  FILE PHIN
      9  FILE PROMT
     79  FILE PROUSDDR
58 FILES SEARCHED...
     438 FILE SCISEARCH
60 FILES SEARCHED...
      1  FILE SYNTHLINE
     594 FILE TOXCENTER
     166 FILE USPATFULL
      8  FILE USPAT2
67 FILES SEARCHED...
     40  FILE WPIDS
69 FILES SEARCHED...
     40  FILE WPINDEX

41 FILES HAVE ONE OR MORE ANSWERS,   70 FILES SEARCHED IN STNINDEX

L3  QUE ("ATAXIA TELANGIECTASIA AND RAD3 RELATED PROTEIN"/BI OR "ATM- AND RAD3
      -RELATED PROTEIN KINASE"/BI OR "ATR KINASE"/BI OR "ATR PROTEIN KINASE"
      /BI OR "CHECKPOINT KINASE ATR"/BI OR "CHECKPOINT KINASE"/BI OR "DNA-DE
      PENDENT P53 KINASE ATR"/BI OR "PROTEIN KINASE ATR"/BI OR 182970-52-1/B
      I)

```

=> s l3 and p53 and py<1999

```

      0* FILE ADISINSIGHT
      7 FILES SEARCHED...
     11 FILES SEARCHED...
     13 FILES SEARCHED...
      2  FILE CAPLUS
     17 FILES SEARCHED...
      0* FILE CONFSCI
     23 FILES SEARCHED...
     29 FILES SEARCHED...
     30 FILES SEARCHED...
      0* FILE FEDRIP
      0* FILE FOREGE
     35 FILES SEARCHED...
     41 FILES SEARCHED...
      2  FILE MEDLINE
     47 FILES SEARCHED...
     50 FILES SEARCHED...
      0* FILE PHAR
      0* FILE PROUSDDR
     57 FILES SEARCHED...
     62 FILES SEARCHED...
      1  FILE USPAT2
     67 FILES SEARCHED...
     68 FILES SEARCHED...

```

3 FILES HAVE ONE OR MORE ANSWERS, 70 FILES SEARCHED IN STNINDEX

L4 QUE L3 AND P53 AND PY<1999

=> file hits

COST IN U.S. DOLLARS	SINCE FILE ENTRY	TOTAL SESSION
FULL ESTIMATED COST	22.57	45.83

FILE 'CAPLUS' ENTERED AT 12:15:48 ON 12 JAN 2006  
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FILE 'USPAT2' ENTERED AT 12:15:48 ON 12 JAN 2006

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=> s l4

2 FILES SEARCHED...

L5 5 L4

=> dup rem

ENTER L# LIST OR (END):l5

PROCESSING COMPLETED FOR L5

L6 5 DUP REM L5 (0 DUPLICATES REMOVED)

=> d bib abs 1-5

L6 ANSWER 1 OF 5 CAPLUS COPYRIGHT 2006 ACS on STN

AN 2004:681308 CAPLUS

DN 141:202073

TI Detection of protein interaction by complementation of fragments of reporter proteins and its use in high throughput drug screening

IN Michnick, Stephen William Watson; Remy, Ingrid; MacDonald, Marnie; Lamerdin, Jane; Yu, Helen; Westwick, John K.

PA Odyssey Thera, Inc., USA

SO U.S. Pat. Appl. Publ., 75 pp., Cont.-in-part of U.S. Pat. Appl. 2004 38,298.

CODEN: USXXCO

DT Patent

LA English

FAN.CNT 13

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	US 2004161787	A1	20040819	US 2004-772021	20040205
	CA 2196496	AA	19980731	CA 1997-2196496	19970131 <--
	US 6270964	B1	20010807	US 1998-17412	19980202
	EP 1605042	A2	20051214	EP 2005-17291	19980202
	R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT, IE, FI				
	CA 2244349	AA	20000130	CA 1998-2244349	19980730
	US 6428951	B1	20020806	US 2000-499464	20000207
	US 2001047526	A1	20011129	US 2001-851084	20010509
	US 6872871	B2	20050329		
	US 2003049688	A1	20030313	US 2002-154758	20020524
	US 6929916	B2	20050816		
	US 2004038298	A1	20040226	US 2003-353090	20030129
	CA 2514843	AA	20040819	CA 2004-2514843	20040206
	WO 2004070351	A2	20040819	WO 2004-US2008	20040206
	WO 2004070351	A3	20050310		
	W: AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BW, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, EG, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NA, NI				
	RW: BW, GH, GM, KE, LS, MW, MZ, SD, SL, SZ, TZ, UG, ZM, ZW, AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, HU, IE, IT, LU, MC, NL, PT, RO, SE, SI, SK, TR, BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG				
	EP 1590476	A2	20051102	EP 2004-708966	20040206
	R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT, IE, SI, LT, LV, FI, RO, MK, CY, AL, TR, BG, CZ, EE, HU, SK				
	US 2005233348	A1	20051020	US 2004-2259	20041203
	US 2005255452	A1	20051117	US 2005-90215	20050328
PRAI	CA 1997-2196496	A	19970131		
	US 1998-17412	A1	19980202		
	US 2000-499464	A1	20000207		
	US 2002-154758	A1	20020524		

had date

proteins that also associate with chromatin during meiotic prophase I. The genetic and regulatory interaction between Atm and mammalian Chk1 appears to be important for integrating DNA-damage repair with cell-cycle arrest. RESULTS: We have identified structural homologs of yeast Chk1 in human and mouse. Chk1(Hu/Mo) has protein kinase activity and is expressed in the testis. Chk1 accumulates in late zygotene and pachytene spermatocytes and is present along synapsed meiotic chromosomes. Chk1 localizes along the unsynapsed axes of X and Y chromosomes in pachytene spermatocytes. The association of Chk1 with meiotic chromosomes and levels of Chk1 protein depend upon a functional Atm gene product, but Chk1 is not dependent upon p53 for meiosis I functions. Mapping of CHK1 to human chromosomes indicates that the gene is located at 11q22-23, a region marked by frequent deletions and loss of heterozygosity in human tumors. CONCLUSIONS: The Atm-dependent presence of Chk1 in mouse cells and along meiotic chromosomes, and the late pachynema co-localization of Atr and Chk1 on the unsynapsed axes of the paired X and Y chromosomes, suggest that Chk1 acts as an integrator for Atm and Atr signals and may be involved in monitoring the processing of meiotic recombination. Furthermore, mapping of the CHK1 gene to a region of frequent loss of heterozygosity in human tumors at 11q22-23 indicates that the CHK1 gene is a candidate tumor suppressor gene.

L6 ANSWER 5 OF 5 MEDLINE on STN  
AN 1998044309 MEDLINE  
DN PubMed ID: 9382823  
TI Cell-cycle signaling: Atm displays its many talents.  
AU Westphal C H  
CS Department of Genetics and Howard Hughes Medical Institute, Harvard Medical School, 200 Longwood Avenue, Boston, Massachusetts 02115, USA.. westphal@rascal.med.harvard.edu  
SO Current biology : CB, (1997 Dec 1) 7 (12) R789-92. Ref: 25  
Journal code: 9107782. ISSN: 0960-9822.  
CY ENGLAND: United Kingdom  
DT Journal; Article; (JOURNAL ARTICLE)  
General Review; (REVIEW)  
(REVIEW, TUTORIAL)  
LA English  
FS Priority Journals  
EM 199802  
ED Entered STN: 19980226  
Last Updated on STN: 19980226  
Entered Medline: 19980219  
AB The discovery of multiple signaling cascades downstream of Atm may lead to a clearer understanding of the diverse defects seen in ataxia-telangiectasia. These pathways - which include evolutionarily conserved Chk1 and Atr, and non-conserved p21, p53 and AbI - guard genomic integrity after DNA damage.

=> d his

(FILE 'HOME' ENTERED AT 11:47:23 ON 12 JAN 2006)

FILE 'STNGUIDE' ENTERED AT 11:47:36 ON 12 JAN 2006

FILE 'HOME' ENTERED AT 11:47:42 ON 12 JAN 2006

FILE 'CAPLUS' ENTERED AT 11:47:54 ON 12 JAN 2006

E TIBBETTS RS/AU

E TIBBETTS R S/AU

L1

2 S E4 AND PY=1999

FILE 'REGISTRY' ENTERED AT 11:51:17 ON 12 JAN 2006

E ATM-RAD3-RELATED/CN

E ATR

L2

E ATR/CN  
1 S ATM AND ATR  
SET EXP CONT  
SEL L2 CHEM

INDEX 'ADISCTI, ADISINSIGHT, ADISNEWS, AGRICOLA, ANABSTR, ANTE, AQUALINE, AQUASCI, BIOENG, BIOSIS, BIOTECHABS, BIOTECHDS, BIOTECHNO, CABA, CAPLUS, CEABA-VTB, CIN, CONFSCI, CROPB, CROPU, DDFB, DDFU, DGENE, DISSABS, DRUGB, DRUGMONOG2, DRUGU, EMBAL, EMBASE, ...' ENTERED AT 11:53:40 ON 12 JAN 2006  
SEA E13-21

-----  
1 FILE ADISCTI  
3 FILE ADISINSIGHT  
9 FILE AGRICOLA  
7 FILE AQUASCI  
41 FILE BIOENG  
468 FILE BIOSIS  
20 FILE BIOTECHABS  
20 FILE BIOTECHDS  
129 FILE BIOTECHNO  
9 FILE CABA  
709 FILE CAPLUS  
4 FILE CIN  
5 FILE CONFSCI  
61 FILE DDFU  
4219 FILE DGENE  
27 FILE DISSABS  
76 FILE DRUGU  
16 FILE EMBAL  
722 FILE EMBASE  
344 FILE ES BIOBASE  
34 FILE FEDRIP  
3147 FILE GENBANK  
39 FILE IFIPAT  
1 FILE IMSDRUGNEWS  
9 FILE JICST-EPLUS  
240 FILE LIFESCI  
874 FILE MEDLINE  
6 FILE NTIS  
107 FILE PASCAL  
5 FILE PHAR  
1 FILE PHARMAML  
5 FILE PHIN  
9 FILE PROMT  
79 FILE PROUSDDR  
438 FILE SCISEARCH  
1 FILE SYNTHLINE  
594 FILE TOXCENTER  
166 FILE USPATFULL  
8 FILE USPAT2  
40 FILE WPIDS  
40 FILE WPINDEX

L3

QUE ("ATAXIA TELANGIECTASIA AND RAD3 RELATED PROTEIN"/BI OR "AT

-----  
SEA L3 AND P53 AND PY<1999  
-----

0\* FILE ADISINSIGHT  
2 FILE CAPLUS  
0\* FILE CONFSCI  
0\* FILE FEDRIP  
0\* FILE FOREGE  
2 FILE MEDLINE  
0\* FILE PHAR  
0\* FILE PROUSDDR  
1 FILE USPAT2

L4

QUE L3 AND P53 AND PY<1999

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FILE 'CAPLUS, MEDLINE, USPAT2' ENTERED AT 12:15:48 ON 12 JAN 2006

L5 5 S L4

L6 5 DUP REM L5 (0 DUPLICATES REMOVED)

=> log y

COST IN U.S. DOLLARS

SINCE FILE

TOTAL

ENTRY

SESSION

FULL ESTIMATED COST

74.55

120.38

DISCOUNT AMOUNTS (FOR QUALIFYING ACCOUNTS)

SINCE FILE

TOTAL

ENTRY

SESSION

CA SUBSCRIBER PRICE

-1.50

-1.50

STN INTERNATIONAL LOGOFF AT 12:17:06 ON 12 JAN 2006

L4

QUE L3 AND P53 AND PY<1999  
-----

FILE 'CAPLUS, MEDLINE, USPAT2' ENTERED AT 12:15:48 ON 12 JAN 2006

L5 5 S L4

L6 5 DUP REM L5 (0 DUPLICATES REMOVED)

=&gt; log y

COST IN U.S. DOLLARS

SINCE FILE	TOTAL
ENTRY	SESSION
74.55	120.38

FULL ESTIMATED COST

DISCOUNT AMOUNTS (FOR QUALIFYING ACCOUNTS)

SINCE FILE	TOTAL
ENTRY	SESSION
-1.50	-1.50

CA SUBSCRIBER PRICE

STN INTERNATIONAL LOGOFF AT 12:17:06 ON 12 JAN 2006

PNAS (vol. 95, pages 7445-7450, June 1998) disclose that ATR is a Rad3 gene product and mediates responses to ionizing and UV radiation in human cells. The relationship between ATM and ATR is discussed. For example, ATM and ATR have some overlap in function, however, it is unlikely that ATM represents a direct human analogue of either rad3+ or MEC1 (Mec1 (yeast) and Rad3 (human) mutants are sensitive to a wide array of DNA damaging agents i.e. UV and X-rays). To clarify the role of ATR in DNA damage responses and its relationship to ATM, the function of ATR in both normal human cells and cells with defects in DNA damage response pathways, specifically cells lacking functional ATM or p53 was examined. Found that the cell killing effect of ATR.KD actually may be enhanced in the absence of functional p53. The reference is silent on an assay to identify compounds to modulate the p53-ATR interaction wherein said ATR phosphorylates p53.

**US Patent No. 6632936**

Disclose assay methods for selecting compounds which modulate the activity of *S. pombe* rad3 gene products and its human homologue ATR. The patent deals with screening assays for compounds that inhibit or activate ATR activity or the activity of mutated forms of ATR. The patent discloses that "compounds that modulate interaction between Rad3/ATR and other cellular components may be used in methods of treating cancer. For example, if a particular form of cancer results from a mutation in a gene other than ATR, such as the p53 gene, an agent which inhibits the transcription or the enzymatic activity of ATR and thus the G2 cell cycle checkpoint may be used to render cancerous cells more susceptible to chemotherapy or radiation therapy. The reference does not teach an assay to identify a compound to modulate the p53-ATR interaction. The patent does not establish that ATR phosphorylates p53 and identify a compound that modulates said interaction.

**WO97/09433**

Disclose the use of reporter fragment-labeled p53 and checkpoint kinase Chk1 to screen for the ability of known drugs to modulate the interaction of the two proteins. There's a discussion on the autophosphorylation activity of Rad3/ATR and compounds that modulate said protein. As the U.S. Patent is the national stage of the WO, the teaching is the same. Thus, the WO document disclose: "compounds that modulate interaction between Rad3/ATR and other cellular components may be used in methods of treating cancer. For example, if a particular form of cancer results from a mutation in a gene other than ATR, such as the p53 gene, an agent which inhibits the transcription or the enzymatic activity of ATR and thus the G2 cell cycle checkpoint may be used to render cancerous cells more susceptible to chemotherapy or radiation therapy. However, does not teach an assay to identify a compound to modulate the p53-ATR interaction. The WO does not establish that ATR phosphorylates p53 and identify a compound that modulates said interaction.

L4

QUE L3 AND P53 AND PY<1999

-----

FILE 'CAPLUS, MEDLINE, USPAT2' ENTERED AT 12:15:48 ON 12 JAN 2006

L5 5 S L4

L6 5 DUP REM L5 (0 DUPLICATES REMOVED)

=> log y

COST IN U.S. DOLLARS

SINCE FILE

TOTAL

ENTRY

SESSION

FULL ESTIMATED COST

74.55

120.38

DISCOUNT AMOUNTS (FOR QUALIFYING ACCOUNTS)

SINCE FILE

TOTAL

ENTRY

SESSION

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-1.50

-1.50

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NEWS 5 DEC 14 2006 MeSH terms loaded for MEDLINE file segment of TOXCENTER  
NEWS 6 DEC 14 CA/CAPLUS to be enhanced with updated IPC codes  
NEWS 7 DEC 21 IPC search and display fields enhanced in CA/CAPLUS with the  
IPC reform  
NEWS 8 DEC 23 New IPC8 SEARCH, DISPLAY, and SELECT fields in USPATFULL/  
USPAT2

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AND CURRENT DISCOVER FILE IS DATED 19 DECEMBER 2005.  
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=> FIL STNGUIDE

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FULL ESTIMATED COST	0.21	0.21

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AND TECHNOLOGY CORPORATION, AND FACHINFORMATIONSZENTRUM KARLSRUHE

FILE CONTAINS CURRENT INFORMATION.

LAST RELOADED: Jan 6, 2006 (20060106/UP).

=> FIL HOME		
COST IN U.S. DOLLARS	SINCE FILE	TOTAL
	ENTRY	SESSION
FULL ESTIMATED COST	0.06	0.27

FILE 'HOME' ENTERED AT 11:47:42 ON 12 JAN 2006

=> file caplus		
COST IN U.S. DOLLARS	SINCE FILE	TOTAL
	ENTRY	SESSION
FULL ESTIMATED COST	0.21	0.48

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FILE COVERS 1907 - 12 Jan 2006 VOL 144 ISS 3  
 FILE LAST UPDATED: 11 Jan 2006 (20060111/ED)

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=> e tibbetts rs/au

E1	1	TIBBETTS RAYMOND E/AU
E2	2	TIBBETTS ROBERT J/AU
E3	0 -->	TIBBETTS RS/AU
E4	2	TIBBETTS RUSSELL D R/AU
E5	3	TIBBETTS S A/AU
E6	1	TIBBETTS S J/AU
E7	3	TIBBETTS S M/AU
E8	4	TIBBETTS SARAH J/AU
E9	1	TIBBETTS SCOTT/AU
E10	14	TIBBETTS SCOTT A/AU
E11	1	TIBBETTS SCOTT AARON/AU
E12	1	TIBBETTS STANELY J/AU

=> e tibbetts r s/au

E1	1	TIBBETTS P H/AU
E2	19	TIBBETTS P J C/AU
E3	0 -->	TIBBETTS R S/AU
E4	18	TIBBETTS RANDAL S/AU
E5	1	TIBBETTS RANDAL SCOT/AU
E6	1	TIBBETTS RAYMOND E/AU
E7	2	TIBBETTS ROBERT J/AU
E8	2	TIBBETTS RUSSELL D R/AU
E9	3	TIBBETTS S A/AU
E10	1	TIBBETTS S J/AU
E11	3	TIBBETTS S M/AU
E12	4	TIBBETTS SARAH J/AU

=> s e4 and py=1999



18 "TIBBETTS RANDAL S"/AU  
960839 PY=1999

L1 2 "TIBBETTS RANDAL S"/AU AND PY=1999

=> d bi 1-2

'BI' IS NOT A VALID FORMAT FOR FILE 'CAPLUS'

The following are valid formats:

ABS ----- GI and AB  
ALL ----- BIB, AB, IND, RE  
APPS ----- AI, PRAI  
BIB ----- AN, plus Bibliographic Data and PI table (default)  
CAN ----- List of CA abstract numbers without answer numbers  
CBIB ----- AN, plus Compressed Bibliographic Data  
CLASS ----- IPC, NCL, ECLA, FTERM  
DALL ----- ALL, delimited (end of each field identified)  
DMAX ----- MAX, delimited for post-processing  
FAM ----- AN, PI and PRAI in table, plus Patent Family data  
FBIB ----- AN, BIB, plus Patent FAM  
IND ----- Indexing data  
IPC ----- International Patent Classifications  
MAX ----- ALL, plus Patent FAM, RE  
PATS ----- PI, SO  
SAM ----- CC, SX, TI, ST, IT  
SCAN ----- CC, SX, TI, ST, IT (random display, no answer numbers;  
SCAN must be entered on the same line as the DISPLAY,  
e.g., D SCAN or DISPLAY SCAN)  
STD ----- BIB, CLASS  
  
IABS ----- ABS, indented with text labels  
IALL ----- ALL, indented with text labels  
IBIB ----- BIB, indented with text labels  
IMAX ----- MAX, indented with text labels  
ISTD ----- STD, indented with text labels  
  
OBIB ----- AN, plus Bibliographic Data (original)  
OIBIB ----- OBIB, indented with text labels  
  
SBIB ----- BIB, no citations  
SIBIB ----- IBIB, no citations  
  
HIT ----- Fields containing hit terms  
HITIND ----- IC, ICA, ICI, NCL, CC and index field (ST and IT)  
containing hit terms  
HITRN ----- HIT RN and its text modification  
HITSTR ----- HIT RN, its text modification, its CA index name, and  
its structure diagram  
HITSEQ ----- HIT RN, its text modification, its CA index name, its  
structure diagram, plus NTE and SEQ fields  
FHITSTR ----- First HIT RN, its text modification, its CA index name, and  
its structure diagram  
FHITSEQ ----- First HIT RN, its text modification, its CA index name, its  
structure diagram, plus NTE and SEQ fields  
KWIC ----- Hit term plus 20 words on either side  
OCC ----- Number of occurrence of hit term and field in which it occurs

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FHITSTR, HITSEQ, FHITSEQ, KWIC, and OCC) may be used with DISPLAY ACC to view a specified Accession Number.

ENTER DISPLAY FORMAT (BIB):

ENTER DISPLAY FORMAT (BIB):bib

L1 ANSWER 1 OF 2 CAPLUS COPYRIGHT 2006 ACS on STN  
AN 1999:580525 CAPLUS  
DN 131:283366  
TI Inhibition of ATM and ATR kinase activities by the radiosensitizing agent, caffeine  
AU Sarkaria, Jann N.; Busby, Ericka C.; **Tibbetts, Randal S.**; Roos, Pia; Taya, Yoichi; Karnitz, Larry M.; Abraham, Robert T.  
CS Division of Oncology Research, Mayo Clinic, Rochester, MN, 55905, USA  
SO Cancer Research (1999), 59(17), 4375-4382  
CODEN: CNREA8; ISSN: 0008-5472  
PB AACR Subscription Office  
DT Journal  
LA English  
RE.CNT 53 THERE ARE 53 CITED REFERENCES AVAILABLE FOR THIS RECORD  
ALL CITATIONS AVAILABLE IN THE RE FORMAT

L1 ANSWER 2 OF 2 CAPLUS COPYRIGHT 2006 ACS on STN  
AN 1999:107559 CAPLUS  
DN 130:292351  
TI A role for ATR in the DNA damage-induced phosphorylation of p53  
AU **Tibbetts, Randal S.**; Brumbaugh, Kathryn M.; Williams, Josie M.; Sarkaria, Jann N.; Cliby, William A.; Shieh, Sheau-Yann; Taya, Yoichi; Prives, Carol; Abraham, Robert T.  
CS Department of Pharmacology and Cancer Cell Biology, Duke University, Durham, NC, 27710, USA  
SO Genes & Development (1999), 13(2), 152-157  
CODEN: GEDEEP; ISSN: 0890-9369  
PB Cold Spring Harbor Laboratory Press  
DT Journal  
LA English  
RE.CNT 35 THERE ARE 35 CITED REFERENCES AVAILABLE FOR THIS RECORD  
ALL CITATIONS AVAILABLE IN THE RE FORMAT

=> d ind 2

L1 ANSWER 2 OF 2 CAPLUS COPYRIGHT 2006 ACS on STN  
CC 3-4 (Biochemical Genetics)  
Section cross-reference(s): 8, 13  
ST DNA damage phosphorylation p53 ATP protein human fibroblast  
IT Proteins, specific or class  
RL: BPR (Biological process); BSU (Biological study, unclassified); BIOL (Biological study); PROC (Process)  
(ATM-Rad3-related (ATR); a role for ATR in DNA damage-induced phosphorylation of p53)  
IT Animal cell line  
(GM847 and AT3B1; a role for ATR in DNA damage-induced phosphorylation of p53)  
IT Gene, animal  
RL: BPR (Biological process); BSU (Biological study, unclassified); BIOL (Biological study); PROC (Process)  
(TP53; a role for ATR in DNA damage-induced phosphorylation of p53)  
IT UV radiation  
(a role for ATR in DNA damage-induced phosphorylation of p53)  
IT p53 (protein)  
RL: BPR (Biological process); BSU (Biological study, unclassified); BIOL (Biological study); PROC (Process)  
(a role for ATR in DNA damage-induced phosphorylation of p53)  
IT DNA  
RL: BPR (Biological process); BSU (Biological study, unclassified); BIOL

```

      (Biological study); PROC (Process)
      (damage, a role for ATR in DNA damage-induced phosphorylation of p53)
IT   Gamma ray
      (irradiation; a role for ATR in DNA damage-induced phosphorylation of p53)
IT   Phosphorylation, biological
      (of p53 Ser-15; a role for ATR in DNA damage-induced phosphorylation of
      p53)

```

```

=> file reg
COST IN U.S. DOLLARS                SINCE FILE      TOTAL
                                     ENTRY      SESSION
FULL ESTIMATED COST                9.27          9.75

```

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STRUCTURE FILE UPDATES:  10 JAN 2006  HIGHEST RN 871658-99-0
DICTIONARY FILE UPDATES: 10 JAN 2006  HIGHEST RN 871658-99-0

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```

*****
*
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* the IDE default display format and the ED field has been added,  *
* effective March 20, 2005. A new display format, IDERL, is now    *
* available and contains the CA role and document type information. *
*
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```

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 experimental property data in the original document. For information  
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```

=> e ATM-Rad3-related/cn
E1      1      ATM-P/CN
E2      1      ATM-P (POLYMER)/CN
E3      0 --> ATM-RAD3-RELATED/CN
E4      1      ATM-RELATED KINASE (ASPERGILLUS NIDULANS CLONE W24C04 GENE U
          VSB)/CN
E5      1      ATM./CN
E6      1      ATM61.25/CN
E7      1      ATMAC/CN
E8      1      ATMC/CN
E9      1      ATMER 100/CN
E10     1      ATMER 1007/CN
E11     1      ATMER 1013/CN
E12     1      ATMER 103/CN

```

=> e atr

E1	1	ATQL3/BI
E2	1	ATQL4/BI
E3	6161	--> ATR/BI
E4	4102	ATR01/BI
E5	4427	ATR02/BI
E6	23	ATR1/BI
E7	1	ATR14/BI
E8	16	ATR1NDWSB/BI
E9	8	ATR2/BI
E10	1	ATR228/BI
E11	14	ATR3/BI
E12	1	ATR35/BI

=> e atr/cn

E1	1	ATPTPKIS1 (ARABIDOPSIS THALIANA F4F15.290 GENE)/CN
E2	1	ATPTPKIS1 ALTERNATE (ARABIDOPSIS THALIANA ALTERNATE SPLICING F4F15.290 GENE)/CN
E3	1	--> ATR/CN
E4	1	ATR 077/CN
E5	1	ATR 180/CN
E6	1	ATR 180KZ/A3/CN
E7	1	ATR 200/CN
E8	1	ATR 2005/CN
E9	1	ATR 2009/CN
E10	1	ATR 2010/CN
E11	1	ATR 310/CN
E12	1	ATR 63/CN

=> s atm and atr

	437	ATM
	2	ATMS
	439	ATM
		(ATM OR ATMS)
	6161	ATR
	12	ATRS
	6173	ATR
		(ATR OR ATRS)
L2	1	ATM AND ATR

=> d

L2 ANSWER 1 OF 1 REGISTRY COPYRIGHT 2006 ACS on STN  
RN 182970-52-1 REGISTRY  
ED Entered STN: 12 Nov 1996  
CN **Kinase (phosphorylating), protein, Atr (9CI)** (CA INDEX NAME)  
OTHER NAMES:  
CN Ataxia telangiectasia and Rad3 related protein  
CN **ATM- and Rad3-related protein kinase**  
CN **ATR kinase**  
CN **Atr protein kinase**  
CN Checkpoint kinase  
CN **Checkpoint kinase ATR**  
CN **DNA-dependent p53 kinase ATR**  
CN **Protein kinase Atr**  
MF Unspecified  
CI MAN  
SR CA  
LC STN Files: BIOSIS, CA, CAPLUS, TOXCENTER, USPATFULL

\*\*\* STRUCTURE DIAGRAM IS NOT AVAILABLE \*\*\*

264 REFERENCES IN FILE CA (1907 TO DATE)  
4 REFERENCES TO NON-SPECIFIC DERIVATIVES IN FILE CA  
268 REFERENCES IN FILE CAPLUS (1907 TO DATE)

=> set exp cont  
SET COMMAND COMPLETED

=> sel l2 chem  
E13 THROUGH E21 ASSIGNED

=> index bioscience  
FILE 'DRUGMONOG' ACCESS NOT AUTHORIZED  
COST IN U.S. DOLLARS

	SINCE FILE	TOTAL
	ENTRY	SESSION
FULL ESTIMATED COST	13.51	23.26

INDEX 'ADISCTI, ADISINSIGHT, ADISNEWS, AGRICOLA, ANABSTR, ANTE, AQUALINE, AQUASCI, BIOENG, BIOSIS, BIOTECHABS, BIOTECHDS, BIOTECHNO, CABA, CAPLUS, CEABA-VTB, CIN, CONFSCI, CROPB, CROPU, DDFB, DDFU, DGENE, DISSABS, DRUGB, DRUGMONOG2, DRUGU, EMBAL, EMBASE, ...' ENTERED AT 11:53:40 ON 12 JAN 2006

70 FILES IN THE FILE LIST IN STNINDEX

Enter SET DETAIL ON to see search term postings or to view  
search error messages that display as 0\* with SET DETAIL OFF.

=> s e13-21

- 1 FILE ADISCTI
- 3 FILE ADISINSIGHT
- 9 FILE AGRICOLA
- 7 FILES SEARCHED...
- 7 FILE AQUASCI
- 41 FILE BIOENG
- 468 FILE BIOSIS
- 20 FILE BIOTECHABS
- 11 FILES SEARCHED...
- 20 FILE BIOTECHDS
- 129 FILE BIOTECHNO
- 13 FILES SEARCHED...
- 9 FILE CABA
- 709 FILE CAPLUS
- 4 FILE CIN
- 17 FILES SEARCHED...
- 5 FILE CONFSCI
- 61 FILE DDFU
- 4219 FILE DGENE
- 23 FILES SEARCHED...
- 27 FILE DISSABS
- 76 FILE DRUGU
- 16 FILE EMBAL
- 722 FILE EMBASE
- 29 FILES SEARCHED...
- 344 FILE ESBIODBASE
- 30 FILES SEARCHED...
- 34 FILE FEDRIP
- 35 FILES SEARCHED...
- 3147 FILE GENBANK
- 39 FILE IFIPAT
- 1 FILE IMSDRUGNEWS
- 9 FILE JICST-EPLUS
- 240 FILE LIFESCI
- 44 FILES SEARCHED...
- 874 FILE MEDLINE
- 6 FILE NTIS
- 47 FILES SEARCHED...
- 107 FILE PASCAL
- 50 FILES SEARCHED...

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5     FILE PHAR
1     FILE PHARMAML
5     FILE PHIN
9     FILE PROMT
79    FILE PROUSDDR
58 FILES SEARCHED...
438   FILE SCISEARCH
60 FILES SEARCHED...
1     FILE SYNTHLINE
594   FILE TOXCENTER
166   FILE USPATFULL
8     FILE USPAT2
67 FILES SEARCHED...
40    FILE WPIDS
69 FILES SEARCHED...
40    FILE WPINDEX

41 FILES HAVE ONE OR MORE ANSWERS,    70 FILES SEARCHED IN STNINDEX

L3  QUE ("ATAXIA TELANGIECTASIA AND RAD3 RELATED PROTEIN"/BI OR "ATM- AND RAD3
-RELATED PROTEIN KINASE"/BI OR "ATR KINASE"/BI OR "ATR PROTEIN KINASE"
/BI OR "CHECKPOINT KINASE ATR"/BI OR "CHECKPOINT KINASE"/BI OR "DNA-DE
PENDENT P53 KINASE ATR"/BI OR "PROTEIN KINASE ATR"/BI OR 182970-52-1/B
I)

```

=> s l3 and p53 and py<1999

```

0*   FILE ADISINSIGHT
7 FILES SEARCHED...
11 FILES SEARCHED...
13 FILES SEARCHED...
2    FILE CAPLUS
17 FILES SEARCHED...
0*   FILE CONFSCI
23 FILES SEARCHED...
29 FILES SEARCHED...
30 FILES SEARCHED...
0*   FILE FEDRIP
0*   FILE FOREGE
35 FILES SEARCHED...
41 FILES SEARCHED...
2    FILE MEDLINE
47 FILES SEARCHED...
50 FILES SEARCHED...
0*   FILE PHAR
0*   FILE PROUSDDR
57 FILES SEARCHED...
62 FILES SEARCHED...
1    FILE USPAT2
67 FILES SEARCHED...
68 FILES SEARCHED...

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3 FILES HAVE ONE OR MORE ANSWERS, 70 FILES SEARCHED IN STNINDEX

L4 QUE L3 AND P53 AND PY<1999

=> file hits

COST IN U.S. DOLLARS	SINCE FILE	TOTAL
	ENTRY	SESSION
FULL ESTIMATED COST	22.57	45.83

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L6 5 DUP REM L5 (0 DUPLICATES REMOVED)

=> d bib abs 1-5

L6 ANSWER 1 OF 5 CAPLUS COPYRIGHT 2006 ACS on STN

AN 2004:681308 CAPLUS

DN 141:202073

TI Detection of protein interaction by complementation of fragments of reporter proteins and its use in high throughput drug screening

IN Michnick, Stephen William Watson; Remy, Ingrid; MacDonald, Marnie; Lamerdin, Jane; Yu, Helen; Westwick, John K.

PA Odyssey Thera, Inc., USA

SO U.S. Pat. Appl. Publ., 75 pp., Cont.-in-part of U.S. Pat. Appl. 2004 38,298.

CODEN: USXXCO

DT Patent

LA English

FAN.CNT 13

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	US 2004161787	A1	20040819	US 2004-772021	20040205
	CA 2196496	AA	19980731	CA 1997-2196496	19970131 <--
	US 6270964	B1	20010807	US 1998-17412	19980202
	EP 1605042	A2	20051214	EP 2005-17291	19980202
	R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT, IE, FI				
	CA 2244349	AA	20000130	CA 1998-2244349	19980730
	US 6428951	B1	20020806	US 2000-499464	20000207
	US 2001047526	A1	20011129	US 2001-851084	20010509
	US 6872871	B2	20050329		
	US 2003049688	A1	20030313	US 2002-154758	20020524
	US 6929916	B2	20050816		
	US 2004038298	A1	20040226	US 2003-353090	20030129
	CA 2514843	AA	20040819	CA 2004-2514843	20040206
	WO 2004070351	A2	20040819	WO 2004-US2008	20040206
	WO 2004070351	A3	20050310		
	W: AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BW, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, EG, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NA, NI				
	RW: BW, GH, GM, KE, LS, MW, MZ, SD, SL, SZ, TZ, UG, ZM, ZW, AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, HU, IE, IT, LU, MC, NL, PT, RO, SE, SI, SK, TR, BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG				
	EP 1590476	A2	20051102	EP 2004-708966	20040206
	R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT, IE, SI, LT, LV, FI, RO, MK, CY, AL, TR, BG, CZ, EE, HU, SK				
	US 2005233348	A1	20051020	US 2004-2259	20041203
	US 2005255452	A1	20051117	US 2005-90215	20050328
PRAI	CA 1997-2196496	A	19970131		
	US 1998-17412	A1	19980202		
	US 2000-499464	A1	20000207		
	US 2002-154758	A1	20020524		

in anticancer therapy.

CAS INDEXING IS AVAILABLE FOR THIS PATENT.

L6 ANSWER 3 OF 5 CAPLUS COPYRIGHT 2006 ACS on STN  
AN 1998:414270 CAPLUS  
DN 129:146329  
TI Protein kinase mutants of human ATR increase sensitivity to UV and  
ionizing radiation and abrogate cell cycle checkpoint control  
AU Wright, Jocyndra A.; Keegan, Kathleen S.; Herendeen, Daniel R.; Bentley,  
Nicola J.; Carr, Antony M.; Hoekstra, Merl F.; Concannon, Patrick  
CS Virginia Mason Research Center, Seattle, WA, 98101, USA  
SO Proceedings of the National Academy of Sciences of the United States of  
America (1998), 95(13), 7445-7450  
CODEN: PNASA6; ISSN: 0027-8424  
PB National Academy of Sciences  
DT Journal  
LA English  
AB In fission yeast, the rad3 gene product plays a critical role in sensing DNA  
structure defects and activating damage response pathways. A structural  
homolog of rad3 in humans (ATR) has been identified based on sequence  
similarity in the protein kinase domain. General information regarding  
ATR expression, protein kinase activity, and cellular localization is  
known, but its function in human cells remains undetd. In the current  
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was found to exist predominantly as part of a large protein complex. A  
kinase-inactivated form of the ATR gene was prepared by site-directed  
mutagenesis and was used in transfection expts. to probe the function of  
this complex. Introduction of this kinase-dead ATR into a normal  
fibroblast cell line, an ATM-deficient fibroblast line derived from a  
patient with ataxia-telangiectasia, or a p53 mutant cell line  
all resulted in significant losses in cell viability. Clones expressing  
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loss of checkpoint control. We conclude that ATR functions as a critical  
part of a protein complex that mediates responses to ionizing and UV  
radiation in human cells. These responses include effects on cell  
viability and cell cycle checkpoint control.

RE.CNT 22 THERE ARE 22 CITED REFERENCES AVAILABLE FOR THIS RECORD  
ALL CITATIONS AVAILABLE IN THE RE FORMAT

L6 ANSWER 4 OF 5 MEDLINE on STN  
AN 1998044285 MEDLINE  
DN PubMed ID: 9382850  
TI Atm-dependent interactions of a mammalian chk1 homolog with meiotic  
chromosomes.  
AU Flagg G; Plug A W; Dunks K M; Mundt K E; Ford J C; Quiggle M R; Taylor E  
M; Westphal C H; Ashley T; Hoekstra M F; Carr A M  
CS ICOS Corporation 22021 20th Avenue S.E., Bothell, Washington 98021, USA.  
SO Current biology : CB, (1997 Dec 1) 7 (12) 977-86.  
Journal code: 9107782. ISSN: 0960-9822.  
CY ENGLAND: United Kingdom  
DT Journal; Article; (JOURNAL ARTICLE)  
LA English  
FS Priority Journals  
OS GENBANK-AF032874; GENBANK-AF032875  
EM 199802  
ED Entered STN: 19980226  
Last Updated on STN: 19980226  
Entered Medline: 19980219  
AB BACKGROUND: Checkpoint pathways prevent cell-cycle progression in the  
event of DNA lesions. Checkpoints are well defined in mitosis, where  
lesions can be the result of extrinsic damage, and they are critical in  
meiosis, where DNA breaks are a programmed step in meiotic recombination.  
In mitotic yeast cells, the Chk1 protein couples DNA repair to the  
cell-cycle machinery. The Atm and Atr proteins are mitotic cell-cycle

*Reviewed*



US 2003-353090	A2	20030129
US 2003-445225P	P	20030206
EP 1998-901905	A3	19980202
US 2000-203937P	P	20000512
US 2000-208485P	P	20000602
US 2001-851084	A3	20010509
US 2001-870018	A3	20010531
US 2004-772021	A	20040205
WO 2004-US2008	W	20040206

AB A method of screening for protein interaction and for modulators of the interaction using the complementation of fragments of a reporter moiety is described. The method uses expression constructs for fusion proteins of the proteins of interest with fragments of a reporter protein. The fragments of the reporter protein do not sep. have a reporter activity. When the proteins interact, the two fragments are brought together to restore the reporter activity. The restoration of reporter activity can be used for high throughput screening for modulators of the interaction of the proteins. The method can be applied to unknown proteins identified by methods such as cDNA library screening or gene-by-gene interaction mapping in addition to those known to be involved in interactions. Fluorescent and luminescent proteins can be used in these assays. Methods of selecting suitable reporters for high-throughput or high-content (high-context) assays is described for a range of reporters, with particular detail provided for examples of monomeric enzymes and fluorescent proteins. Methods are described for constructing such assays for one or more steps in a biochem. pathway and testing the effects of compds. from libraries of candidate substances. Single-color and multi-color assays are disclosed. Further disclosed are universal expression vectors with cassettes that allow the rapid construction of assays for a large and diverse number of gene/reporter combinations. The development of such assays is shown to be straightforward, providing for a broad, flexible and biol. relevant platform for drug discovery. Use of reporter fragment-labeled p53 and checkpoint kinase Chk1 to screen for the ability of known drugs to modulate the interaction of the two proteins is demonstrated. The use of the method to study the effects of proteins interacting with these two proteins on their interactions is also demonstrated.

L6 ANSWER 2 OF 5 USPAT2 on STN  
 AN 2003:10281 USPAT2  
 TI Cell-cycle checkpoint genes  
 IN Carr, Antony Michael, MRC Cell Mutation Unit, University of Sussex, Falmer Brighton BN1 9RR, UNITED KINGDOM  
 PI US 6632936 B2 20031014  
WO 9709433 19970313  
 AI US 1999-29047 19990511 (9)  
 WO 1996-GB2197 19960906  
 PRAI GB 1995-18220 19950906  
 DT Utility  
 FS GRANTED  
 EXNAM Primary Examiner: Caputa, Anthony C.; Assistant Examiner: Nickol, Gary B.  
 LREP Marshall, Gerstein & Borun  
 CLMN Number of Claims: 6  
 ECL Exemplary Claim: 1  
 DRWN 1 Drawing Figure(s); 1 Drawing Page(s)  
 LN.CNT 3723  
 CAS INDEXING IS AVAILABLE FOR THIS PATENT.

AB This invention relates to a class of checkpoint genes and their polypeptide products which control progression through the cell cycle in eukaryotic cells. In particular this invention relates to Schizosaccharomyces pombe rad3 gene, to its human homologue (ATR) and to their encoded proteins. The invention further relates to assay methods for selecting compounds which modulate the activity of the polypeptide products of these checkpoint genes and the use of the selected compounds

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*Reviewed*

US 2003-353090	A2	20030129
US 2003-445225P	P	20030206
EP 1998-901905	A3	19980202
US 2000-203937P	P	20000512
US 2000-208485P	P	20000602
US 2001-851084	A3	20010509
US 2001-870018	A3	20010531
US 2004-772021	A	20040205
WO 2004-US2008	W	20040206

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IN Carr, Antony Michael, MRC Cell Mutation Unit, University of Sussex, Falmer Brighton BN1 9RR, UNITED KINGDOM  
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AI US 1999-29047 19990511 (9)  
WO 1996-GB2197 19960906  
PRAI GB 1995-18220 19950906  
DT Utility  
FS GRANTED  
EXNAM Primary Examiner: Caputa, Anthony C.; Assistant Examiner: Nickol, Gary B.  
LREP Marshall, Gerstein & Borun  
CLMN Number of Claims: 6  
ECL Exemplary Claim: 1  
DRWN 1 Drawing Figure(s); 1 Drawing Page(s)  
LN.CNT 3723  
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in anticancer therapy.

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L6 ANSWER 3 OF 5 CAPLUS COPYRIGHT 2006 ACS on STN  
AN 1998:414270 CAPLUS  
DN 129:146329  
TI Protein kinase mutants of human ATR increase sensitivity to UV and  
ionizing radiation and abrogate cell cycle checkpoint control  
AU Wright, Jocyndra A.; Keegan, Kathleen S.; Herendeen, Daniel R.; Bentley,  
Nicola J.; Carr, Antony M.; Hoekstra, Merl F.; Concannon, Patrick  
CS Virginia Mason Research Center, Seattle, WA, 98101, USA  
SO Proceedings of the National Academy of Sciences of the United States of  
America (1998), 95(13), 7445-7450  
CODEN: PNASA6; ISSN: 0027-8424  
PB National Academy of Sciences  
DT Journal  
LA English  
AB In fission yeast, the rad3 gene product plays a critical role in sensing DNA  
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ATR expression, protein kinase activity, and cellular localization is  
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study, the ATR protein was examined by gel filtration of protein exts. and  
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patient with ataxia-telangiectasia, or a p53 mutant cell line  
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L6 ANSWER 4 OF 5 MEDLINE on STN  
AN 1998044285 MEDLINE  
DN PubMed ID: 9382850  
TI Atm-dependent interactions of a mammalian chk1 homolog with meiotic  
chromosomes.  
AU Flaggs G; Plug A W; Dunks K M; Mundt K E; Ford J C; Quiggle M R; Taylor E  
M; Westphal C H; Ashley T; Hoekstra M F; Carr A M  
CS ICOS Corporation 22021 20th Avenue S.E., Bothell, Washington 98021, USA.  
SO Current biology : CB, (1997 Dec 1) 7 (12) 977-86.  
Journal code: 9107782. ISSN: 0960-9822.  
CY ENGLAND: United Kingdom  
DT Journal; Article; (JOURNAL ARTICLE)  
LA English  
FS Priority Journals  
OS GENBANK-AF032874; GENBANK-AF032875  
EM 199802  
ED Entered STN: 19980226  
Last Updated on STN: 19980226  
Entered Medline: 19980219  
AB BACKGROUND: Checkpoint pathways prevent cell-cycle progression in the  
event of DNA lesions. Checkpoints are well defined in mitosis, where  
lesions can be the result of extrinsic damage, and they are critical in  
meiosis, where DNA breaks are a programmed step in meiotic recombination.  
In mitotic yeast cells, the Chk1 protein couples DNA repair to the  
cell-cycle machinery. The Atm and Atr proteins are mitotic cell-cycle

proteins that also associate with chromatin during meiotic prophase I. The genetic and regulatory interaction between Atm and mammalian Chk1 appears to be important for integrating DNA-damage repair with cell-cycle arrest. RESULTS: We have identified structural homologs of yeast Chk1 in human and mouse. Chk1(Hu/Mo) has protein kinase activity and is expressed in the testis. Chk1 accumulates in late zygotene and pachytene spermatocytes and is present along synapsed meiotic chromosomes. Chk1 localizes along the unsynapsed axes of X and Y chromosomes in pachytene spermatocytes. The association of Chk1 with meiotic chromosomes and levels of Chk1 protein depend upon a functional Atm gene product, but Chk1 is not dependent upon p53 for meiosis I functions. Mapping of CHK1 to human chromosomes indicates that the gene is located at 11q22-23, a region marked by frequent deletions and loss of heterozygosity in human tumors. CONCLUSIONS: The Atm-dependent presence of Chk1 in mouse cells and along meiotic chromosomes, and the late pachynema co-localization of Atr and Chk1 on the unsynapsed axes of the paired X and Y chromosomes, suggest that Chk1 acts as an integrator for Atm and Atr signals and may be involved in monitoring the processing of meiotic recombination. Furthermore, mapping of the CHK1 gene to a region of frequent loss of heterozygosity in human tumors at 11q22-23 indicates that the CHK1 gene is a candidate tumor suppressor gene.

L6 ANSWER 5 OF 5 MEDLINE on STN  
AN 1998044309 MEDLINE  
DN PubMed ID: 9382823  
TI Cell-cycle signaling: Atm displays its many talents.  
AU Westphal C H  
CS Department of Genetics and Howard Hughes Medical Institute, Harvard Medical School, 200 Longwood Avenue, Boston, Massachusetts 02115, USA.. westphal@rascal.med.harvard.edu  
SO Current biology : CB, (1997 Dec 1) 7 (12) R789-92. Ref: 25  
Journal code: 9107782. ISSN: 0960-9822.  
CY ENGLAND: United Kingdom  
DT Journal; Article; (JOURNAL ARTICLE)  
General Review; (REVIEW)  
(REVIEW, TUTORIAL)  
LA English  
FS Priority Journals  
EM 199802  
ED Entered STN: 19980226  
Last Updated on STN: 19980226  
Entered Medline: 19980219  
AB The discovery of multiple signaling cascades downstream of Atm may lead to a clearer understanding of the diverse defects seen in ataxia-telangiectasia. These pathways - which include evolutionarily conserved Chk1 and Atr, and non-conserved p21, p53 and AbI - guard genomic integrity after DNA damage.

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FILE 'STNGUIDE' ENTERED AT 11:47:36 ON 12 JAN 2006

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FILE 'CAPLUS' ENTERED AT 11:47:54 ON 12 JAN 2006

E TIBBETTS RS/AU

E TIBBETTS R S/AU

L1 2 S E4 AND PY=1999

FILE 'REGISTRY' ENTERED AT 11:51:17 ON 12 JAN 2006

E ATM-RAD3-RELATED/CN

E ATR

L2

E ATR/CN  
1 S ATM AND ATR  
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INDEX 'ADISCTI, ADISINSIGHT, ADISNEWS, AGRICOLA, ANABSTR, ANTE, AQUALINE,  
AQUASCI, BIOENG, BIOSIS, BIOTECHABS, BIOTECHDS, BIOTECHNO, CABA, CAPLUS,  
CEABA-VTB, CIN, CONFSCI, CROPB, CROPU, DDFB, DDFU, DGENE, DISSABS, DRUGB,  
DRUGMONOG2, DRUGU, EMBAL, EMBASE, ...' ENTERED AT 11:53:40 ON 12 JAN 2006  
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7 FILE AQUASCI  
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468 FILE BIOSIS  
20 FILE BIOTECHABS  
20 FILE BIOTECHDS  
129 FILE BIOTECHNO  
9 FILE CABA  
709 FILE CAPLUS  
4 FILE CIN  
5 FILE CONFSCI  
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4219 FILE DGENE  
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1 FILE USPAT2

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<u>L5</u>	(ATR and p53) and (11)	1	<u>L5</u>
<u>L4</u>	L3 and (inhibition)	1	<u>L4</u>
<u>L3</u>	L2 and (ATR)	1	<u>L3</u>
<u>L2</u>	L1 and p53	1	<u>L2</u>
<u>L1</u>	6632936.pn.	1	<u>L1</u>

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**Chemical Genetic Algorithms-Evolutionary Optimization of Binary-to-Real-Value Translation in Genetic Algorithms.**

Artif Life. 2006 Winter;12(1):89-115.  
PMID: 16393452 [PubMed - in process]

☐ 2: [Pan-Hammarstrom O, Lahdesmaki A, Zhao Y, Du L, Zhao Z, Wen S, Ruiz-Perez VL, Dunn-Walters DK, Goodship JA, Hammarstrom L.](#)

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**Disparate roles of ATR and ATM in immunoglobulin class switch recombination and somatic hypermutation.**

J Exp Med. 2006 Jan 3; [Epub ahead of print]  
PMID: 16390936 [PubMed - as supplied by publisher]

☐ 3: [Chang GS, Ambrosek RG.](#)

[Related Articles, Links](#)



**Hardening neutron spectrum for advanced actinide transmutation experiments in the ATR.**

Radiat Prot Dosimetry. 2005;115(1-4):63-8.  
PMID: 16381683 [PubMed - in process]

☐ 4: [Choudhury A, Cuddihy A, Bristow RG.](#)

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**Radiation and New Molecular Agents Part I: Targeting ATM-ATR Checkpoints, DNA Repair, and the Proteasome.**

Semin Radiat Oncol. 2006 Jan;16(1):51-8.  
PMID: 16378907 [PubMed - in process]

☐ 5: [Kang SY, Bremer PJ, Kim KW, McQuillan AJ.](#)

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**Monitoring metal ion binding in single-layer pseudomonas aeruginosa biofilms using ATR-IR spectroscopy.**

Langmuir. 2006 Jan 3;22(1):286-91.  
PMID: 16378433 [PubMed - in process]

☐ 6: [Ignatova M, Voccia S, Gilbert B, Markova N, Cossement D, Gouttebaron R, Jerome R, Jerome C.](#)

[Related Articles, Links](#)



**Combination of electrografting and atom-transfer radical polymerization for making the stainless steel surface antibacterial and protein antiadhesive.**

Langmuir. 2006 Jan 3;22(1):255-62.  
PMID: 16378429 [PubMed - in process]

☐ 7: [Faucheux A, Gouget-Laemmel AC, Henry de Villeneuve C, Boukherroub R, Ozanam F, Allongue P, Chazalviel JN.](#)

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**Well-defined carboxyl-terminated alkyl monolayers grafted onto H-Si(111): packing density from a combined AFM and quantitative IR study.**

Langmuir. 2006 Jan 3;22(1):153-62.  
PMID: 16378414 [PubMed - in process]

☐ 8: [Hegde S, Kapoor S, Joshi S, Mukherjee T.](#)

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**Self-assembly of Ag nanoparticle-biotin composites into long fiberlike**

microstructures.

J Colloid Interface Sci. 2005 Dec 22; [Epub ahead of print]  
PMID: 16376926 [PubMed - as supplied by publisher]


 **9:** [Wada T, Sakakibara M, Fukushima Y, Saitoh S.](#)

[Related Articles, Links](#)



**A novel splicing mutation of the ATRX gene in ATR-X syndrome.**

Brain Dev. 2005 Dec 20; [Epub ahead of print]  
PMID: 16376512 [PubMed - as supplied by publisher]

 **10:** [Steenkamp PA, Harding NM, van Heerden FR, van Wyk BE.](#)

[Related Articles, Links](#)



**Identification of atractyloside by LC-ESI-MS in alleged herbal poisonings.**

Forensic Sci Int. 2005 Dec 20; [Epub ahead of print]  
PMID: 16376039 [PubMed - as supplied by publisher]


 **11:** [Tan S, Belanger D.](#)

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**Characterization and transport properties of Nafion/polyaniline composite membranes.**

J Phys Chem B Condens Matter Mater Surf Interfaces Biophys. 2005 Dec 15;109(49):23480-90.  
PMID: 16375322 [PubMed - in process]


 **12:** [Stern HM, Murphey RD, Shepard JL, Amatruda JF, Straub CT, Pfaff KL, Weber G, Tallarico JA, King RW, Zon LI.](#)

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**Small molecules that delay S phase suppress a zebrafish bmyb mutant.**

Nat Chem Biol. 2005 Dec;1(7):366-70.  
PMID: 16372403 [PubMed - in process]


 **13:** [Mochida S, Yanagida M.](#)

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**Distinct modes of DNA damage response in S. pombe G0 and vegetative cells.**

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## [Expression of ATR-Fc fusion protein in CHO cells]

[Article in Chinese]

Gao LH, Hu XW, Chen W, Xu JJ, Zhao J, Chen HP.

Beijing Institute of Biotechnology, Beijing 100071, China.

ATR-Fc is a fusion protein consisting of extracellular domain of human anthrax toxin receptor (ATR) and a fragment (hinge, CH2, and CH3 domains) of the Fc of human IgG1. The aim of ATR-Fc expression is to get an antibody-like molecule binding to protective antigen (PA), a component of anthrax toxins, this fusion protein may compete with cell surface receptor for PA binding, and block the transport of lethal factor (LF) and edema factor (EF) into cells, thereby act as an antitoxin to prevent and treat anthrax infection. A DNA fragment encoding N-terminal amino acids 1-227 of ATR and human IgG1 Fc was inserted into the Hind III and Not I sites of pcDNA3.1 to generate the eukaryotic vector pcDNA3.1/ATR-Fc for expression of ATR-Fc fusion protein. Using lipofectine-mediated gene transfer technique, pcDNA3.1/ATR-Fc was transfected into CHO-K1 cells. After selected with G418, a recombinant CHO cell line, ATR-Fc-1D5, whose expression level was about 10 - 15 microg/(10(6) cells x d), was established. The recombinant protein expressed by the ATR-Fc-1D5 cells was purified with protein A chromatography. The experimental results demonstrated a direct and specific interaction between ATR-Fc and PA assessed by ELISA.

PMID: 16285529 [PubMed - in process]

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